

Low Pressure Adsorbent for Recovery & Storage Vented Hydrogen, Phase I

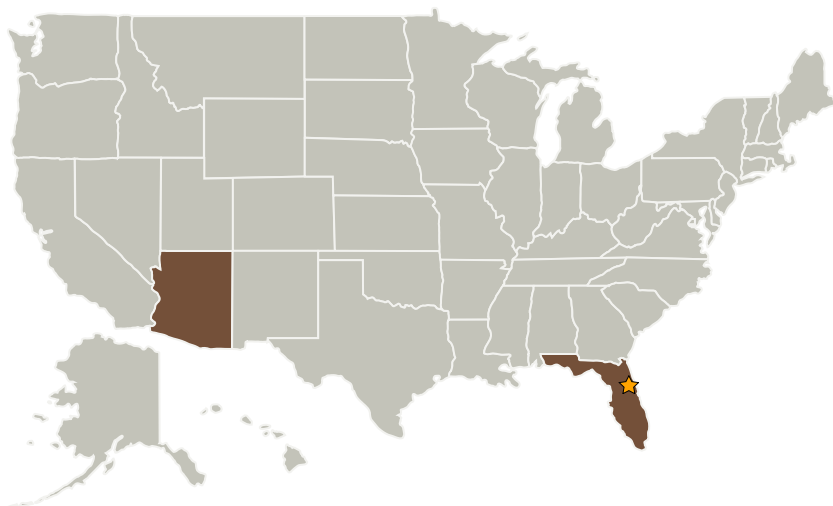
Completed Technology Project (2001 - 2002)



Project Introduction

A high performance fullerene-based adsorbent is proposed for recovery and storage hydrogen and separating helium via pressure-swing-adsorption (PSA) process. Research work performed at MER showed that the proposed adsorbent has an exceptionally high hydrogen adsorption capacity at low pressure and excellent separation factor relative to helium. During the Phase I program, the feasibility of using fullerene-based adsorbents for low-pressure recovery and storage will be determined. The H₂/He separation factor, the purity of He, and the economics of the system will also be determined. The performance and cost of conceptual system, producing about 1000 to 100,000 gallon per day, will be estimated and compared to alternative system to demonstrate feasibility.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Kennedy Space Center(KSC)	Lead Organization	NASA Center	Kennedy Space Center, Florida
MER Corporation	Supporting Organization	Industry	Tucson, Arizona



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Kennedy Space Center (KSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Arizona

Florida

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Project Manager:

Andres F Rodriguez

Principal Investigator:

R. O Loutfy

Technology Areas

Primary:

- TX13 Ground, Test, and Surface Systems
 - └ TX13.1 Infrastructure Optimization
 - └ TX13.1.3 Commodity Recovery